Optical Node Series
NC4000H3
2x2 Segmentable 1 GHz Node – Ultra-High Output

FEATURES
- 60 dBmV ultra-high output at 1 GHz via GaN technology for Fiber Deep applications
- 2x2 segmentable
- Four RF outputs, two auxiliary ports for power or video, and two fiber ports
- Multiple forward/return frequency split options
- Uses automotive blade fuses and JXP pads and equalizers
- Superior upstream performance via advanced universal digital return modules
- Built-in, all-digital node status monitoring
- Redundant power supply option
- Strand or pedestal mounting

PRODUCT OVERVIEW
The ARRIS NC4000H3 series 2x2 segmentable node is designed to provide the utmost reliability, flexibility, and adaptability in an outdoor optical node platform, and is ideal for Fiber Deep applications.
With an ultra-high output level of up to 60 dBmV (at 1002 MHz) available on all four RF output ports of the OA4324HG RF Output Amplifier, the NC4000H3 can be used to extend the reach of the coax distribution network in Fiber Deep architectures. Utilizing the standard or high gain optical receivers enables optical inputs between +3 and -10 dBm. This flexible and rugged platform is also scalable. Both downstream paths and upstream paths can be fully segmented using ARRIS’s universal digital return solutions. This includes a host of ITU CWDM and DWDM options, further expanding the deployment of advanced “bandwidth-hungry” services into fiber-poor areas while reducing real estate and powering requirements in the field.

The NC4000H3 supports deployment of a wide range of field-hardened EDFAs and optical switches for extended fiber reach, routing options, and system reliability. Remote monitoring capability is provided with integrated network management, eliminating the added cost of a third-party status monitoring transponder.

The NC4000H3 node platform also supports next-generation architectures and technologies such as Node PON, Node QAM, EPoC, and more, providing a seamless migration to support tomorrow’s services.

### RELATED PRODUCTS

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SPECIFICATIONS

Characteristics | Specification
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**Physical** |  
Dimensions | 20” L x 9.5” W x 10.75” H (50.8 cm x 24.1 cm x 27.3 cm)
Weight | 38 lbs (17.1 kg)
Housing Ports | 6 AC/RF ports and 2 fiber ports
Environmental |  
Operating Temperature Range | –40°C to +65°C (–40°F to +149°F)
Storage Temperature Range | –40°C to +85°C (-40°F to +185°F)
Humidity | 5% to 95% non-condensing
**General** |  
Passband options |  
Return | 5 - 45 MHz  
5 - 60 MHz  
5 - 65 MHz  
5 - 85 MHz  
Forward | 54 - 1002 MHz  
72 - 1002 MHz  
85 - 1002 MHz  
102 - 1002 MHz
RF Test Points (Fwd and Rtn) |  
Return | -20 dB  
Flatness | ± 1 dB  
Output return loss (at the node output) | > 16 dB  
Optical input range | -3 to +3 dBm into AR4x03G receiver  
-10 to +2 dBm into AR4x14G receiver
**Power Requirements** |  
Operating Input voltage range | 44 to 95 V<sub>in</sub> (47–70 Hz Quasi-Square Wave)
Power passing | 15 A<sub>pass</sub>
Power supply start-up input voltage | 40–44 V<sub>in</sub>
Power supply turn off input voltage | 34–38 V<sub>in</sub>
Power supply efficiency | 73% typical
DC power consumption |  
- 73 W (standard configuration of 4 RF outputs and 1 optical Rx)  
- 10 W (second Optical Receiver, AR4x14)  
- 6 W (Return Transceiver, DT4250 with TR4000 SFP)  
- 9 W (Node EDFA, single-width FA4500 series)
**RF Performance for HFC Applications (See Note 1)** |  
Channel Loading (see Note 2) |  
Up to 550 MHz | Analog NTSC  
550-1002 MHz | 256QAM at -6 dBc
Nominal output level (per port) |  
at 1002 MHz | 60 dBmV  
at 54 MHz | 42 dBmV
Nominal slope | 54 / 1002 | 18 dB linear
Link performance (see Note 3) |  
CNR | 49 dB  
CSO | 58 dB  
CTB | 56.5 dB
NOTES:  
1. Performance with 0.5 dBm input to node’s Optical Receiver from a 1 GHz Model AT13xG-A-2-AS Analog 1310 nm Transmitter  
2. For alternate channel loading performance, contact your ARRIS Sales Representative  
3. Link performance, including transmitter (with CW channel loading to 550 MHz and 256QAM loading above 550 MHz at -6 dBc)

ORDERING INFORMATION

A typical configuration of the NC4000H3 series optical node includes the NH4000-H housing with external test ports, one PS4001 power supply, one S1-1002 MHz optical receiver module (AR4214) with SC/APC connectors, the OA4324HG 4-port RF amplifier module, and JXP equalizers and pads. A backup PS4001 power supply may be separately ordered. Also available are optional plug-in modules that are described on separate data sheets; FA4500 series Optical Amplifiers, DT4250N Universal Digital Return Transceivers, optical or RF redundancy switches, and return ingress switch options. Please contact your ARRIS sales representative for information regarding specific equipment configuration options to meet your particular requirements.

Customer Care

Contact Customer Care for product information and sales:  
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• International: +1-678-473-5656

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